

## TILE CAP

### RELATED APPLICATION

**[0001]** This application is an original filing of and claims priority to, provisional patent application serial number 60/453,180, filed March 10, 2003, the disclosure of which is herein incorporated by reference.

### FIELD OF THE INVENTION

**[0002]** The invention provides Tile Caps for use in tile applications, such as repairing or replacing existing ceramic, stone, or other tiling material.

### BACKGROUND OF THE INVENTION

**[0003]** Traditional floor coverings and surface treatments are known in the art. Many floor coverings are made of ceramics or laminates having a hard outer layer, which is typically deposited on a support, wherein the support may be a metal foil, film, plastic, or other material.

**[0004]** Replacement surfaces for use in covering existing surfaces are also known in the art. U.S. Patent No. 5,776,605 provides replacement surfaces which are self-curing, wherein the replacement surface has an adhesive layer for sealing cracks and other imperfections.

**[0005]** Devices employed in preparing or cutting tiles prior to application are also known in the art. U.S. Patent No. 6,082,723 provides a device for holding tile in a certain number of orientations as are needed during cutting.

**[0006]** Previous tile was of such depth that the tile would typically need to be inset within the existing tile bed, or the tile would not appear to match the existing surface. This aspect would thus detract from a finished look.

**[0007]** However, the Tile Caps of the present invention are applied in such a close proximity to the existing surface or tile that the Tile Caps appear to be part of that

existing surface. Thus, it would be a significant contribution to the art to provide Tile Caps for use in applications over existing surfaces.

### SUMMARY OF THE INVENTION

**[0008]** The present invention provides a Tile Cap for use in existing surface or tile applications.

**[0009]** The present invention further provides a method for using said Tile Cap in existing surface or tile applications.

### BRIEF ILLUSTRATION OF THE DRAWINGS

**[0010]** Figure 1 illustrates a perspective view showing the Tile Cap and adhesive location above a standard tile layout with a connecting line to show which corner fits to the existing or target tile location first.

**[0011]** Figure 2 illustrates a cross sectional view showing the relationship of the Tile Cap to the target tile and grout bed with general dimensions for thickness of materials.

**[0012]** Figure 3 illustrates a detailed top and bottom view of the relationship of the Tile Cap 10-20, the adhesive 30, the trimable knife edge 70, the grout bed, and the target tile 40, and the target tile's glazed surface 50.

### DETAILED DESCRIPTION OF THE INVENTION

**[0013]** The present invention provides Tile Caps for use in existing tile or surface applications, where the Tile Cap is installed over the existing tile or surface without having to remove the existing tile or other surface, such as would be performed in repairing or replacing a surface which is broken or damaged, including repairing or replacing broken or damaged tile. The Tile Cap may also be employed in remodeling, where a new look or style is obtained by applying the Tile Cap over an existing surface. This may also be provided where a textured or artistically appointed Tile Cap surface is chosen, such as where the surface would appear to rise from the existing surface surrounding the Tile Cap.

**[0014]** Tile Caps may also be employed to provide a biogenic or germicidal surface over an existing surface. Suitable Tile Caps to be employed in this application would be made from a material having a biocide or germicidal material embedded in the Tile Cap material, such as a biocidal, germicidal, antibacterial, antialgal, antifungal, or bacteriostatic material present in the resin before molding the Tile Cap. These suitable agents could also be added to the resin during the Tile Cap molding process. Suitable biocides or germicides or biostatic materials are known in the art and would be chosen so as to be compatible with the resin chosen and the production process employed in making the Tile Cap, which would provide a resulting biocidal, germicidal, or bacteriostatic Tile Cap as would be desired in the particular resulting application. An example of an antibacterial agent would be Irgaguard<sup>®</sup> available from Ciba Specialty Chemicals, for use in resins such as polyethylene.

**[0015]** Other suitable applications may be employed, so long as the Tile Cap size and application method is compatible with the existing surface.

**[0016]** Where the term “ceramic tile” is employed herein, one skilled in the art would appreciate that other types of tiles or surfaces may have been employed previously in the existing application, such as stone, wood, plastic, or vinyl.

**[0017]** The Tile Caps of the instant invention are designed to be placed directly over existing ceramic tile or other surfaces as a fascia to cover cracked, chipped, or discolored tiles, or they could be used as decorative tile enhancements. This application would thus allow users to add different styles, designs, colors, or textures to existing tile installations.

**[0018]** Tile Caps may also be used in applications of tile without the prior need for grouting. This application would thus permit the application of Tile Caps to areas that are not suitable for grouting.

**[0019]** Tile Caps may also be employed in a creative or artistic manner, such as providing artistic pieces suitable for painting to be used by hobbyists, wherein these

Tile Caps could then be applied to any suitable surface. The surfaces may be horizontal or vertical or combinations thereof, so long as the Tile Cap is applied in such a manner that the Tile Cap adheres to the various existing surfaces.

**[0020]** Tile Caps may additionally have images imprinted on them by way of various methods, such as through dye sublimation processes, which would thereby allow photos and other art to be displayed when the modified Tile Caps are employed.

**[0021]** Alternately, Tile Caps may be fabricated from metal castings, or wood using suitable tools such as CNC tools, or the Tile Caps may be ceramic, where the Tile Caps are made through standard ceramic production techniques. The method of making the Tile Cap may be chosen so as to achieve the desired decorative effect.

**[0022]** As shown in Figures 1, 2, and 3, the Tile Cap consists of a top 10 and bottom surface 20 (from .031 to .20 inches apart) forming a planar surface with four opposing sides of that surface in order to create a square or rectangle. The edges or sides of the Tile Cap are downward curved and radiused from top to bottom 70, mimicking a standard ceramic tile. The Tile Cap has adhesive 30 on the bottom side to affix the Tile Cap to the glazed surface 50 of the target tile 40 and can be from .031 inches to .25 inches thick depending on the tile size to be covered. The overall size of the planar surface of the Tile Cap can be made to accommodate all existing tile sizes or cover several tiles at once, should one desire to change the pattern or look of the existing application. The top surface of a Tile Cap is typically raised approximately .062 to .25 of an inch from the original glazed tile surface depending on adhesive requirements, tile size, and finish. The top surface may have any finish desired, from a smooth mirror-like finish to a rough textured or relieved surface, and or a sculptured surface with artistic elements.

**[0023]** The Tile Caps may be produced from various resins and plastics in molds through standard plastic molding and injection molding processes. A Tile Cap may resemble a standard ceramic tile in look and feel but not in total weight or thickness, as the Tile Cap is a fascia and fits closely over the existing tile and only down to the existing grout line, or fits over the existing surface. To enable a good fit, the Tile Cap has a trimable "knife edge" 70 as shown in Figure 3 allowing the Tile Cap to closely conform

to the existing tile. This feature further allows the visual perception of the Tile Cap as to appear relatively conforming to the existing surface, such as conforming to a wall. This may be enhanced by trimming the Tile Cap to conform to the existing tile shoulders, which may not be immediately compatible with the Tile Cap. This trimming may be accomplished using an emory board, metal file, or suitable sand paper of 120 grit or higher. By simply reducing the "knife edge" 70 on the interior portion, a closer fit may be easily obtained.

**[0024]** The Tile Cap typically covers the complete individual ceramic tile, or tile surface and may be attached with different types of adhesive compounds, including foam double-sided foam tape, "construction adhesives," hot-melt adhesives, heat release adhesives, hot-melt bonding systems, or other suitable adhesive compounds, including epoxy compounds. An example of a hot-melt bonding system would be the Hot Melt Bonding Systems available from 3M™. These different adhesives provide attachment to a wide range of substrate and tile materials with ease and efficiency. The adhesive chosen may also provide attachment of the Tile Cap in a temporary or removable fashion to allow for ease of original placement. A further example of a suitable adhesive would be heat release adhesive which would allow for easy removal or temporary application of the Tile Cap. The preferred installation procedures employ the foam tape adhesive method, with a peel and stick-on technique. An example of a foam adhesive would be the Double Coated Foam Tapes available from 3M™. Other adhesives may be used, such as those requiring prior application of the adhesive, or preparation of the surface before application.

**[0025]** Components of the Tile Cap include the following: 1) plastic or resin molded to fit over an existing ceramic tile substrate, or over an existing flat surface substrate; and 2) an adhesive selected to adhere to the substrate to which the Tile Cap will be attached. The plastic or resin article may be molded or formed using suitable means to achieve the desired shape or configuration of the resulting Tile Cap.

## EXAMPLES

### EXAMPLE 1

**[0026]** The Tile Cap may be employed in the following manner. The existing tile surface is cleaned with a suitable cleaner, typically a non streaking cleaner. The protective packaging of the Tile Cap is opened and the Tile Cap is placed directly over the existing application's target tile for a test fit. If there appears to be a good fit, the liner from the adhesive strip on the bottom is peeled away and the Tile Cap is pressed on to the existing application's target tile. If the Tile Cap is too large, or if the Tile Cap stands off of the existing surface more than necessary, the "Knife Edge" on the Tile Cap may be filed or sanded until the required fit is obtained. The adhesive liner is then peeled away from the backing and the Tile Cap may then be attached to the existing target tile.